

# Recovery Plan Action Status

Plan Name: Fine-Rayed Pigtoe Pearly Mussel

Plan Status: Final

Plan Date: 19-Sep-84

Lead Agency: USFWS

Lead Office: Asheville Ecological Services Field Office

(828)

258-3939 )

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	1	1	Preserve presently known populations and habitat	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Other: Administration, Other: Information and Education, Other: Law Enforcement, Other: Regulations	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	1. See general categories for Implementation Schedules. 2. Other agencies' responsibility would be of a cooperative nature or projects funded under a contract or grant program. In some cases contracts could be let to universities or private enterprises. 3. Note: Task costs have not been estimated for this plan. This species exists with other listed mussels in the same river systems. Thus, a task aimed at this species will benefit others. rather than attempting to apportion the costs to each species, recovery tasks will be estimated at a later date when the plans are combined on a watershed basis for implementation.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	2	1.1.1	Determine species' present distribution and range	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Research: Habitat Status, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	Populations of this species remain in four rivers: Clinch, (VA?TN; Powell, VA/TN; North Fork Holston, VA; and Paint Rock, AL.
Finerayed pigtoe (Fusconaia cuneolus)	2	1.1.2	Describe species' habitat	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Research: Competition, Research: Disease, Research: Habitat Requirements, Research: Migration, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Species Expert	A grad student at VPI conducted a life history study of this species (Bruenderman and Neves 1993) and included some basic habitat data.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	2	1.1.3	Disseminate distribution and habitat data to appropriate public and private agencies	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Other: Information and Education	Internal Technical Assistance, Species Expert	
Finerayed pigtoe (Fusconaia cuneolus)	1	1.2	Identify current and future anthropogenic threats and take action to mitigate or eliminate	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Research: Environmental Contaminants, Research: Other Information	Contract, Graduate Student, Internal Field Assistance, Species Expert	Coal mining activities are a major concern to both remaining populations. Current energy demands appear to be increasing, thus placing this species at greater risk of endangerment. Project money continues to be allocated to determine the effects of coal mining activities on mussels. The Service and its partners are working with the mining industry and Federal regulators on ways to improve mining activities to help protect mussel habitat.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	1	1.3.1	Keep state and Federal informed of our recovery efforts and enforce laws and regulations	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Law Enforcement Division, U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, TN and VA Nature Conservancy, Virginia Commission of Game and Inland Fisheries	Other: Administration, Other: Information and Education, Other: Law Enforcement	Internal Technical Assistance, Species Expert	
Finerayed pigtoe (Fusconaia cuneolus)	2	1.3.2-1.3.4	Meet with local governments, industry, and riparian landowners and solicit their support in protecting the species	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, TN and VA Nature Conservancy, Virginia Commission of Game and Inland Fisheries	Other: Administration, Other: Information and Education	Internal Technical Assistance, Species Expert	Riparian habitat restoration work has been and continues to be conducted in the Clinch, Powell, and Paint Rock Rivers. These projects serve to reduce sedimentation and nutrients to this species' habitat.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	2	1.3.5	Investigate feasibility of protecting the species and its habitat through sanctuaries, collecting permit restrictions, or other regulations	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Law Enforcement Division, U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, TN and VA Nature Conservancy, Virginia Commission of Game and Inland Fisheries	Other: Regulations	Internal Technical Assistance	
Finerayed pigtoe (Fusconaia cuneolus)	2	1.3.6	Develop an educational program	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, TN and VA Nature Conservancy, Virginia Commission of Game and Inland Fisheries	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance, Species Expert, Volunteer	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	2	2	Conduct life history research	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Research: Competition, Research: Demographic Studies, Research: Disease, Research: Habitat Requirements, Research: Migration, Research: Other Information, Research: Predation, Research: Propagation	Contract, Graduate Student, Internal Field Assistance, Species Expert	A grad student at VPI conducted a life history study of this species in 1985. Being a short-term brooder, it is difficult to propagate due to having a short spawning season. A new project should shed more light on developing propagation technology for this species.
Finerayed pigtoe (Fusconaia cuneolus)	3	3.1	Locate suitable sites for potential introductions	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Species Expert	Seven rivers have been identified as potential reintroduction sites for this species. This list may change depending on changes in habitat availability and threats.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	3	3.2	Develop a successful method for introductions	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Research: Propagation, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Species Expert	
Finerayed pigtoe (Fusconaia cuneolus)	3	3.3	Introduce mussels	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Management: Reintroduction, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Species Expert	Although this species is included in a 17-species NEP on the Tennessee River, AL, it has not been reintroduced there pending further developments in ongoing propagation technology.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Finerayed pigtoe (Fusconaia cuneolus)	2	4	Outline and implement a schedule to monitor population levels and trends	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, Virginia Commission of Game and Inland Fisheries	Research: Habitat Status, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	Fixed monitoring sites for quantitative sampling have been established in the Clinch and Powell Rivers, TN/VA, since 1979 and sampled every ~5 years. Recent survey work in the upper North Fork Holston and Paint Rock Rivers has shed light on population trends in those streams.
Finerayed pigtoe (Fusconaia cuneolus)	2	5	Evaluate success of individual activities and overall recovery program.	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Tennessee Wildlife Resources Agency , USFWS Regional Office 4 - Atlanta, USFWS Regional Office 5, Tennessee Heritage Program, TN and VA Nature Conservancy, Virginia Commission of Game and Inland Fisheries	Other: Administration	Internal Administrative	Propagation technology development appears to be a major constraint on this species' recovery (see Action 2).